ACADEMIC RESEARCH INFRASTRUCTURE (ARI) PROGRAM

Instrumentation Development and Acquisition Solicitation

OFFICE OF SCIENCE AND TECHNOLOGY INFRASTRUCTURE

DEADLINE DATE: *March 1, 1995*

NATIONAL SCIENCE FOUNDATION

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BACKGROUND

The Academic Research Infrastructure Program (ARI) is designed to improve the condition of scientific and engineering research equipment and facilities in our Nation's academic institutions. This program responds to needs identified by the academic science and engineering community.

The Academic Research Infrastructure Program consists of two components: instrumentation and facilities modernization. The former provides support for the acquisition or development of major research instrumentation. The latter provides support for the improvement of research facilities. In FY 1995 separate competitions will be held for facilities modernization and instrumentation. **This solicitation is for proposals for instrumentation development and acquisition only.**

Proposals submitted in response to this program solicitation will be competing for about $59 million in FY 1995. The overall proposal success rate for the previous Academic Research Instrumentation competition was approximately 43%.

GOALS

The goals of the instrumentation component of the Academic Research Infrastructure Program are to:

- Support the acquisition, through purchase, upgrade, or development, of major state-of-the-art research instrumentation at U.S. institutions;
- Improve access to and increase use of modern research instrumentation for research and education by scientists, engineers, and graduate and undergraduate students;
- Foster the development of the next generation of research instrumentation; and
- Promote partnerships between academic researchers and private sector instrument developers.

SCOPE

The instrumentation component of the Academic Research Infrastructure program assists in the acquisition or development of major research instrumentation by U.S. institutions that is not usually available through other NSF programs. The maintenance and technical support associated with these instruments are also supported. Proposals may be for a single instrument, a large system of instruments, or multiple instruments that share a common research focus. Computer systems, clusters of advanced workstations, networks, and other information infrastructure components necessary for research are encouraged. Proposals for computer networks as general purpose equipment will not be reviewed. **A list of assorted instruments or general lab equipment that do not share a common research focus will not be reviewed. This component of the Academic Research Infrastructure program will not support renovation or modernization of research facilities or fixed equipment (see definitions, p. 4).**

Awards for instrumentation will range from $100,000 to $2 million. Lesser amounts will be considered in proposals from non-Ph.D. granting institutions or from the social, behavioral and economic science communities.

INSTRUMENT DEVELOPMENT

The academic research enterprise relies on and produces new generations of sophisticated research instrumentation and equipment. The right design, development, and manufacturing processes can yield new instruments that are more widely used, open up new research areas, and have potential as commercial products. This competition seeks to expand the research community's capabilities by supporting the design and development of new instruments with enhanced performance. "Performance" characteristics include: accuracy, reliability, resolving power, throughput speed, sample capacity, flexibility of operation, breadth of application, user-friendliness, maintainability, and cost of acquisition, operation, and maintenance.

Individual investigators and teams of researchers are encouraged to apply for support of instrument development efforts. NSF is taking the initiative in stimulating the development of the next generation of research instrumentation and equipment. NSF particularly encourages collaborations between disciplinary scientists who are knowledgeable in unique instrumentation areas and private-sector experts in the area of instrument manufacture. Working together within a framework of concurrent engineering, such partnerships have the potential to create new products with wide scientific and commercial impact. These academic research/private sector partnerships must be performed in the United States. The "United States" is defined as the 50 states, territories and possessions of the United States, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, the Trust Territory of the Pacific Islands, and the District of Columbia.

ELIGIBLE INSTITUTIONS

Proposals may be submitted by U.S. institutions of higher education, independent nonprofit research institutions, research museums, and legally incorporated consortia thereof. An institution may submit only **two** proposals in response to this solicitation. In addition, an institution may be included as a member of a consortium that is submitting a separate proposal. A consortium may also submit a proposal, through a U.S. university, for instrumentation to be used at a Federally Funded Research and Development Center (FFRDC). Small businesses are eligible as private sector partners with submitting universities for instrument development.

ELIGIBLE FIELDS OF SCIENCE AND ENGINEERING

Proposals will be considered for instrumentation used for any NSF-supported field of science, mathematics, science education, and engineering. The research activities using this instrumentation need not be supported by NSF or the Federal Government. The Program will not provide support for instrumentation to be used in the conduct of disease-oriented research, including the etiology, diagnosis or treatment of physical or mental disease, abnormality or malfunction in human beings or animals, or the design and testing of drugs for treatment of such conditions since these issues fall under the purview of the National Institutes of Health.

ELIGIBLE PROJECT COSTS

Eligible project costs are those total project costs properly and reasonably allocable to the research instrumentation based on the percentage of time that the instrumentation is used for research and research training. For instrument acquisition proposals, eligible project costs include: costs of instrument purchase, installation, commissioning, and calibration. The direct and indirect costs of operation, maintenance, and other appropriate technical support during the award period are also eligible. For instrument development proposals, eligible project costs include all items eligible for instrument acquisition projects, as well as the direct and indirect costs associated with support for personnel engaged in the instrument development effort.

COST SHARING/MATCHING REQUIREMENTS

Cost sharing at the level between 30-50% of total eligible project costs is required with the 50% matching level being strongly encouraged. The minimum award from NSF will be $100,000 (except for non-Ph.D. granting institutions and the social, behavioral and economic sciences), and the maximum award will be $2 million. The minimum total project cost will therefore be $143,000 (assuming 30% cost sharing) and the maximum total project cost will be $4 million (assuming 50% matching.) The cost sharing may come from any private or non-Federal public source and may be in cash or in kind, fairly valuated (see OMB Circular A-110, Attachment E). **Manufacturers' discounts are encouraged for reducing total project costs, but are not eligible institutional cost sharing.** For instrument acquisition projects, eligible cost sharing may include partial purchase of the instrumentation, costs of instrument installation and calibration. In addition, direct and indirect costs of supplies and personnel directly associated with operation and maintenance of the instrumentation are eligible, at a level up to 10% of the total instrument cost per year for the award period (not to exceed three years). For instrument development projects, eligible cost sharing includes all items eligible for instrument acquisition projects. In addition, direct and indirect costs of supplies and personnel directly associated with instrument design, development, operation, and maintenance are eligible, at a level up to 10% of the total instrument cost per year for the award period (up to five years).

Institutional cost sharing must occur during the award period, or after March 1, 1995 if approved in NSF's award letter.

PROPOSAL FORMAT AND REQUIREMENTS

Proposals must be for the acquisition or development of new instrumentation for research and research training. Proposals that are pending in another NSF instrumentation program will not be reviewed by the ARI program. General information about NSF's policies and procedures on proposals, declinations, and awards is contained in Grant Proposal Guide (NSF 94-2); all forms are provided in the Proposal Forms Kit (NSF 94-3).

A checklist is provided to assure inclusion of all required items and for your convenience (see p. 6). Proposals must be stapled in the upper left-hand corner, but otherwise unbound, with pages numbered at the bottom and 2.5 cm margins at the top, bottom, and on each side, in type no smaller than 10 point. The original signed copy should be printed only on one side of each sheet. Additional copies may be printed on both sides.

Proposals that do not adhere to the format below or the stated page limitations will not be reviewed.

Submission Deadline and Timing:

Proposals must be received by 5 p.m. **March 1, 1995.**

Structure and Content:

1. *Cover Page* (NSF 94-3, Form 1207). The project title should convey the primary purpose of the proposal, e.g., "Acquisition of ____," or "Development of ____." The requested amount shown on the cover page should be the **amount requested from NSF, not the total eligible project costs.**
2. *Information about Principal Investigators/Project Directors* (NSF 94-3, Form 1225). A single copy of this form should be included only in the copy of the proposal bearing the original signatures.
3. *Paginated Table of Contents* (NSF 94-3, Form 1359).
4. *Project Summary* (Maximum length, 1 page). Describe the proposed major research instrumentation, the type of research/research training conducted, and the activity that would result if the project is funded by NSF.
5. *Project Description* (Maximum length, 15 pages):
   a. *Research Activities* (Maximum length, 10 pages; 6 for instrument development). Describe the research activities and projects to be conducted with the desired instrumentation, and sources of support, if any. In narrative or tabular form, list by number and type (e.g., senior personnel, postdoctoral fellows, graduate students, undergraduate students) the personnel using the instrumentation for research and research training on a regular basis.
   b. *Description of the Research Instrumentation and Needs* (Maximum length, 2 pages; 6 for instrumentation development). Provide a technical description of the requested instrumentation, including manufacturer and model number. The description should be comprehensive enough to allow reviewers to evaluate the extent to which the equipment is essential and appropriate. A listing and/or description of related instrumentation currently available at or near the submitting institution should be provided, and the request should be justified in this context. For development of new instrumentation, present the design concept, rationale, and development methods in sufficient detail to allow evaluation of its technical feasibility. Provide preliminary results from existing equipment, or appropriate calculations or models to show the performance (e.g., sensitivity, capacity, stability, resolution or signal-to-noise ratio) to be achieved by the new instrument. Justify the necessity and adequacy of the new instrumentation for the proposed research projects, with reference to existing

instruments. **Completion of the project timeline (Attachment 1) is essential for all proposals.**

c. *Impact of Infrastructure Projects* (Maximum length, 2 pages). Describe how the instrumentation will contribute to meeting the research and educational goals of the institution or consortium. Indicate how the instrumentation will attract researchers and students, particularly underrepresented groups and women pursuing advanced degrees in science and engineering, and improve the quality of their research training. For instrument development proposals, discuss the potential impact of this activity on the Nation's academic research infrastructure. Describe how students will be involved and how their education will be enhanced through development efforts. If the development effort involves a private sector partner, attach their letter of agreement describing their role.

d. *Project and Management Plans* (Maximum length, 1 page). Identify the individual responsible for the instrumentation and provide his/her brief (**one-page**) vitae, including relevant experience. If appropriate, outline procedures for allocating instrument time. Describe user fees if any are planned. Provide plans for the maintenance, operation, and technical support of the instrumentation, and for attracting new users.

6. *Budget and Funding* Provide a single cumulative budget page (NSF 94-3, Form 1030) presenting **only those eligible project costs that NSF is being asked to fund. Institutional cost sharing should be shown on Line M, Form 1030.** The budget justification must itemize and explain **all eligible project costs** and assign each to either the NSF request or institutional cost sharing. On an attached sheet, explain the basis for all cost estimates. Specify the expected sources and amounts of cost sharing funds (e.g., state appropriations, endowment, department fund, private source); the plans for obtaining cost sharing funds; and an estimate of when cost sharing funds will be available. **A letter of commitment to institutional cost sharing from the appropriate institutional officer must be appended to the proposal.**

7. *Current and Pending Support* (NSF 94-3, Form 1239). Provide a form for the PI, Co-PI, and each major user of the instrumentation listed in 5a, above. If an individual has no current or pending support (other than this proposal), omit the form but add a statement to that effect.

8. *Biographical Sketches* Each copy must include the collected **one-page** biographical sketches (NSF 94-3, Form 1362) of the PI, Co-PI, and senior personnel who are major users of the relevant research instrumentation, listing no more than five recent publications most relevant to the research and research training using the requested instrumentation. Do NOT send copies of the publications. Where the number of senior personnel using the instrumentation is large, limit the length and number of biographical sketches.

9. *Letter of Institutional Cost Sharing Commitment* **(required)** *and Letters of Industrial Partnership (optional)*

NOTE: NO OTHER APPENDIX MATERIAL IS PERMITTED.

Where To Submit:

Submit nine (9) copies of the proposal, one of which bears the original signatures of the Project Director and Authorized Institutional Representative and includes the requisite single copy of NSF Form 1225, to:

Announcement No. NSF 94-156
National Science Foundation PPU
4201 Wilson Boulevard, Room P60
Arlington, VA 22230

Attn: ARI

Under separate cover, submit one additional copy of the proposal directly to:

Office of Science and Technology Infrastructure
Academic Research Infrastructure
National Science Foundation
4201 Wilson Boulevard, Room 1270
Arlington, VA 22230

REVIEW AND SELECTION

Proposals will be evaluated on the basis of merit review within their respective research directorates. Reviews may include ad hoc mail reviews and panel reviews. External reviewers will be broadly representative of the various types of eligible organizations.

Evaluation Criteria:

1. *Research Merit*. Consideration of the quality of existing research and research training activities. Assessment of the impact that the requested research instrumentation acquisition or development will have on the overall research and research training activities. In addition, the qualifications of the investigators who will use or develop the instrumentation are important.

2. *Infrastructure Need*. The adequacy and appropriateness of the research instrumentation for current and expected research and research training activities. Demonstrated need for improvement of the institution's instrumentation based on analysis of availability, age, condition, and/or capability of existing local instrument resources.

3. *Project Impacts*. The breadth and immediacy of the contributions of the project toward:

   a. future research (including research training) needs;

   b. meeting organizational research and related training needs;

   c. improving the institution's academic scientific and engineering infrastructure and broadening the science and engineering base; and

   d. improving the quality, distribution, or effectiveness of the Nation's scientific and engineering research (including research training) capabilities.

4. *Plans and Funding*.

The institutional plan for maintenance and operation of the requested instrument. The adequacy of the major users' research support to appropriately utilize the instrumentation.

Additional Considerations:

In addition to the four evaluation criteria stated above, NSF will consider the following factors in making **instrumentation** awards under this solicitation:

- Instrument development that includes a private sector partner.
- Commitment by the institution to 50% cost sharing level.
- Geographic distribution and distribution across Ph.D. and non-Ph.D. granting institutions.
- Whether the research and/or research training conducted with the instrumentation addresses the following themes: advanced materials and processing, biotechnology, global change, high-performance computing/communication, information infrastructure, advanced manufacturing technology, and environmental research.
- The program is committed to allocating a minimum of 10% to non-Ph.D. granting and Minority Institutions.
- The ability to demonstrate the shared use of the instruments for research and/or research training.

AWARDS

It is anticipated that award decisions will be announced in the Fall 1995.

NSF awards will be grants that range from approximately $100,000 up to $2 million; none shall exceed $2 million. Awards are not expected to exceed three years in duration, except awards for the development of major research instrumentation, which may be made for up to five years.

NSF awards will stipulate that the awardee is responsible for contributing the specified and agreed upon amount of cost sharing during the award period. In light of this requirement, NSF funds will not be awarded until required cost-sharing commitments have been assured. A letter from an institutional officer stating the amount and source of eligible cost sharing, and assuring availability and commitment of these funds during the proposed award period must accompany the proposal for an award recommendation to be processed. In addition, NSF award conditions may specify special reports, on-site inspections, or other requirements.

NSF requires prospective grantees to furnish, upon request by NSF's Division of Grants and Agreements, basic organization and management information that will assist the NSF Grant Officers in assessing their financial and managerial responsibility. These requirements are described in Chapter III of the NSF Grant Policy Manual. Grants awarded as a result of this solicitation are administered in accordance with the terms and conditions of NSF GC-1, "Grant General Conditions," or FDP-II, "Federal Demonstration Project General Terms and Conditions," depending on the grantee organization.

INQUIRIES

Inquiries about the NSF Academic Research Infrastructure Program should be addressed to:

Office of Science and Technology Infrastructure
Academic Research Infrastructure
National Science Foundation
Room 1270
4201 Wilson Boulevard
Arlington, VA 22230

(703) 306-1040

E-Mail: ari@nsf.gov (INTERNET)

DEFINITIONS

The following definitions apply to the Academic Research Infrastructure Program and these program guidelines:

Institution: A separate legal and fiscal entity, whether at the central or system level, main campus level, or branch campus level, which can receive awards and which is separately and consistently identified at that level by NSF.

Institutions of Higher Education: Institutions legally authorized and accredited at the college level by a nationally recognized accrediting agency to offer and which are offering at least a two-year program of college-level studies leading toward a degree.

Independent Nonprofit Research Institutions: Independent legal entities, other than institutions of higher education, which are generally recognized as separately incorporated, nonprofit, tax exempt organizations, and which conduct research as one of their primary purposes.

Research Museums: Independent nonprofit science museums, zoological parks, aquaria, natural history museums, etc., which conduct research as one of their primary purposes.

Consortia: Legally recognized groups consisting exclusively of two or more eligible institutions. For the purposes of evaluation and review, a consortium proposal will be identified with the institution where the requested research instrumentation is located.

Research Facilities: The bricks-and-mortar physical plant in which sponsored or unsponsored research activities (including research training) take place, including related infrastructure, systems (e.g., HVAC and power systems, toxic waste removal systems), and fixed equipment.

Fixed equipment. The permanent components of a research facility that are integral (i.e., built in, rather than affixed) to the facility (e.g., clean rooms, fume hoods, elevators, growth chambers, laboratory casework); their removal would affect the integrity or basic operation of the facility.

Research Training: Training of individuals (including advanced undergraduates, graduate students, postdoctoral fellows, and faculty) in research techniques where such activities utilize the same facilities as research activities. Research training does not include introductory science or engineering instruction, whether in a classroom or instructional laboratory.

Minority Institutions: Historically Black colleges and universities defined as "part B institutions" by section 322(2) of the Higher Education Act of 1965 (20 U.S.C. 1061(2)) and other institutions whose enrollments are: (a) more than 50 percent of a combination of any of the following groups: Alaskan Native (Eskimo or Aleut), American Indian, Afro/American Black, Hispanic, or Native Pacific Islander; or (b) 20 percent or more of any one of the above eligible minorities.

Non-Ph.D. Granting Institutions: Two- and four-year colleges and universities that have produced fewer than 20 Ph.D.s or D.Sci.s in all NSF-supported disciplines during the two previous academic years.

Private Sector: A business that is: 1) independently owned and operated, has its principal place of business in the United States, and is organized for profit; and 2) at least 51 percent owned, or in the case of a publicly owned business, at least 51 percent of its voting stock is owned by United States citizens or lawfully admitted permanent resident aliens.

RELATED NSF PROGRAMS FOR RESEARCH INSTRUMENTATION

Program Title	Brochure	Telephone
Chemistry Research Instrumentation and Facilities	NSF 93-94	(703) 306-1840
Instrumentation for Materials Research	NSF 94-108	(703) 306-1810
Advanced Technologies and Instrumentation Program, Division of Astronomical Sciences	No Publication #	(703) 306-1828
Scientific Computing Research Equipment for the Mathematical Sciences	NSF 94-145	(703) 306-1870
Earth Sciences Instrumentation and Facilities	NSF 93-66	(703) 306-1558
Ocean Science Research, Ocean Technology and Interdisciplinary Coordination Program	NSF 93-163	(703) 306-1584
Ocean Centers and Facilities, Instrumentation and Technical Services Program	NSF 93-163	(703) 306-1578
Engineering Research Equipment	NSF 93-155	(703) 306-1384
Equipment and Facilities for Research at Biological Field Stations and Marine Laboratories	NSF 91-8	(703) 306-1472
Instrument Development for Biological Research and Multi-user Biological Instrumentation	NSF 92-126	(703) 306-1472
Instrumentation and Laboratory Improvement	NSF 93-164	(703) 306-1667
Computer Information Science & Engineering Institutional Infrastructure-Research Infrastructure	NSF 93-107	(703) 306-1980
Instrumentation Grants for Research in Computer and Information Science and Engineering	NSF 94-56	(703) 306-1980
Social , Behavioral, and Economic Science Instrumentation (contact Dr. John Yellen)	No Publication #	(703) 306-1759
Small Business Innovation Research	NSF 94-45	(703) 306-1391

Copies of these documents may be ordered by electronic mail (Internet: pubs@nsf.gov; see description of STIS at the end of this document), FAX (703/644-4278), or voice-mail (703/306-1130). Include the name and NSF number of each publication, number of copies needed, your name and *complete* mailing address. Publications will be mailed within two days of receipt of request.

Checklist for ARI Instrumentation Proposal Preparation

Complete proposals help expedite review and processing. To assure that proposals submitted are complete, an administrative check should be made before mailing.

All required forms are found in the NSF Grant Proposal Guide (94-2) except the Academic Research Infrastructure Project Timeline (Attachment 1) which is found on page 7 of this brochure.

( ) NSF Form 1225 (one copy only attached to the original signed copy of the proposal.)

( ) 2-page Cover Sheet (NSF Form 1207), addressed to ARI Instrumentation Program/OSTI. Be sure to complete the certification page (pg. 2 of the cover sheet).

( ) All required signatures (principal investigator, co-principal investigators, and authorized institutional representative) on Cover Sheet

( ) Lobbying Disclosure (if applicable), Appendix G of the Grant Proposal Guide

( ) Project Summary, NSF Form 1358

( ) Table of Contents, NSF Form 1359, excluding NSF Forms 1361 and 1363.

( ) Project Description, NSF Form 1360 (Bibliography optional)

( ) Biographical Sketch(es) for Principal Investigator, Co-Principal Investigators and major users of the instrumentation, NSF Form 1362

( ) Budget, NSF Form 1030, one-page cumulative, for amount being requested from NSF only

( ) Budget Justification

( ) Current and Pending Support for Principal Investigator, Co-Principal Investigators and major users of the instrumentation, NSF Form 1239

( ) Academic Research Infrastructure Project Timeline (Attachment 1)

( ) Letters of Support (Letter of Cost Sharing/Match Certification and Letters of Industrial Support for Instrument Development Partnerships)

Copies of the Grant Proposal Guide and all of the NSF forms listed above may be obtained in a variety of ways. Requests must include: NSF Form number; title; number of copies needed; your name; and *complete* mailing address.

Electronic mail: pubs@nsf.gov (Internet)
FAX: (703) 644-4278
Voice-mail: (703) 306-1130

To be considered for support, proposals submitted in response to this solicitation must be:

(1) received no later than March 1, 1995;
(2) postmarked no later than five (5) days prior to March 1, 1995; or
(3) be sent via commercial overnight mail no later than two (2) days prior to March 1, 1995.

Academic Research Infrastructure Project Timeline

Use for Research Instrumentation (Acquisition or Development) Only

Institution: _____

Project Director: _____

Project Title: _____

Activity	Date(s)
• Expected Date of NSF Award	_____ (M/D/Y)
• Expected Date Cost Sharing/Matching To Be Met:	_____ (M/Y)
• Research Instrumentation Acquisition[1]:	_____ (M/Y through M/Y)
- Bid Solicitations:	_____ (M/Y)
- Bids Received:	_____ (M/Y)
- Purchase Order Issuance:	_____ (M/Y)
- Delivery:	_____ (M/Y)
- Installation:	_____ (M/Y)
- Testing:	_____ (M/Y through M/Y)
- Acceptance/Commissioning:	_____ (M/Y)
• Research Instrumentation Development[2]:	_____ (M/Y through M/Y)
- Design Phase:	_____ (M/Y through M/Y)
- Development/Construction Phase[3]:	_____ (M/Y through M/Y)
- _____	_____ (M/Y)
- _____	_____ (M/Y)
- _____	_____ (M/Y)
- Testing:	_____ (M/Y through M/Y)
- Commissioning:	_____ (M/Y)

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1 Indicate expected beginning and ending dates; also identify target dates for completing various stages as appropriate.

2 Indicate expected beginning and ending dates as well as specific target dates for each stage as appropriate.

3 Indicate expected beginning and ending dates. Identify specific significant milestones for construction as appropriate and provide target dates for each.

STIS

The Science & Technology Information System (STIS) at the National Science Foundation

What is STIS?

STIS is an electronic dissemination system that provides fast, easy access to National Science Foundation (NSF) publications. There is no cost to you except for possible long-distance phone charges. The service is available 24 hours a day, except for brief weekly maintenance periods.

What Publications are Available?

Publications currently available include:

- The *NSF Bulletin*
- Program announcements and "Dear Colleague" letters
- General publications and reports
- Press releases, Other NSF news items
- NSF organizational and alphabetical phone directories
- NSF vacancy announcements
- Award abstracts (1989-now)

Our goal is for all printed publications to be available electronically.

Access Methods

There are many ways to access STIS. Choose the method that meets your needs and the communication facilities you have available.

Electronic Documents Via E-Mail. If you have access to Internet e-mail, you can send a specially formatted message, and the document you request will be automatically returned to you via e-mail.

Anonymous FTP. Internet users who are familiar with this file transfer method can quickly and easily transfer STIS documents to their local system for browsing and printing.

On-Line STIS. If you have a VT100 emulator and an Internet connection or a modem, you can log on to the on-line system. The on-line system features full-text search and retrieval software to help you locate the documents and award abstracts that are of interest to you. Once you locate a document, you can browse through it on-line or download it using the Kermit protocol or request that it be mailed to you.

Direct E-Mail. You can request that STIS keep you informed, via e-mail, of all new documents on STIS. You can elect to get either a summary or the full text of new documents.

Internet Gopher and WAIS. If your campus has access to these Internet information resources, you can use your local client software to search and download NSF publications. If you have the capability, it is the easiest way to access STIS.

Getting Started with Documents Via E-Mail

Send a message to the Internet address **stisserv@nsf.gov**. The *text* of the message should be as follows (the Subject line is ignored):

get index

You will receive a list of all the documents on STIS and instructions for retrieving them. Please note that all requests for electronic documents should be sent to **stisserv**, as shown above. Requests for printed publications should be sent to **pubs@nsf.gov.**

Getting Started with Anonymous FTP

FTP to *stis.nsf.gov*. Enter *anonymous* for the username, and your E-mail address for the password. Retrieve the file "index". This contains a list of the files available on STIS and additional instructions.

Getting Started with The On-Line System

If you are on the Internet: *telnet stis.nsf.gov*. At the login prompt, enter *public*.

If you are dialing in with a modem: Choose 1200, 2400, or 9600 baud, 7-E-1. Dial (703) 306-0212 or (703) 306-0213

When connected, press *Enter*. At the login prompt, enter *public*.

Getting Started with Direct E-Mail

Send an E-mail message to the Internet address **stisserv@nsf.gov**. Put the following in the text:

get stisdirm

You will receive instructions for this service.

Getting Started with Gopher and WAIS

The NSF Gopher server is on port 70 of **stis.nsf.gov**. The WAIS server is also on **stis.nsf.gov**. You can get the ".src" file from the "Directory of Servers" at **quake.think.com.** For further information contact your local computer support organization.

For Additional Assistance Contact:

E-mail: *stis@nsf.gov* (Internet)

Phone: (703) 306-0214 (voice mail)

TDD: (703) 306-0090

NSF 94-4
(Replaces NSF 91-10)

ANIMAL WELFARE

If any of the instrumentation listed in an Academic Research Instrumentation Program proposal is likely to be employed in experiments involving non-human vertebrate animals or in maintaining such animals in captivity, the "Animal Welfare" block on the cover sheet must be checked. In such proposals, the narrative must contain an assurance that the proposing institution complies with the relevant guidelines issued by the National Institutes of Health in the *Guide for the Care and Use of Laboratory Animals* (NIH Publication 85-23, Revised 1985). The particular attention of proposers is directed to "U.S. Government Principles for the Utilization and Care of Vertebrate Animals Used in Testing, Research and Training," to be found in the Appendix of that Guide. Individuals desiring a copy of these guidelines can obtain one from the Division of Research Services, Building 31, Room 4B59, National Institutes of Health, 9000 Rockville Pike, Bethesda, MD 20892. NSF does not maintain a supply of this document.

OPEN DOOR POLICY

The Foundation provides awards for research in the sciences and engineering. The awardee is wholly responsible for the conduct of such research and preparation of the results for publication. The Foundation, therefore, does not assume responsibility for the research findings or their interpretation.

The Foundation welcomes proposals from all qualified scientists and engineers and strongly encourages women, minorities, and persons with disabilities to compete fully in any of the research and related programs described here.

In accordance with federal statutes, regulations, and NSF policies, no person on grounds of race, color, age, sex, national origin, or disability shall be excluded from participation in, be denied the benefits of, or be subject to discrimination under any program or activity receiving financial assistance from the National Science Foundation.

Facilitation Awards for Scientists and Engineers with Disabilities (FASED) provide funding for special assistance or equipment to enable persons with disabilities (investigators and other staff, including student research assistants) to work on NSF projects. See the program announcement or contact the Program Coordinator at (703) 306-1636.

The National Science Foundation has TDD (Telephonic Device for the Deaf) capability, which enables individuals with hearing impairment to communicate with the Foundation about NSF programs, employment, or general information. This number is (703) 306-0090.

PRIVACY ACT AND PUBLIC BURDEN

Information requested on NSF application materials is solicited under the authority of the National Science Foundation Act of 1950, as amended. It will be used in connection with the selection of qualified proposals and may be used and disclosed to qualified reviewers and staff assistants as part of the review process and to other government agencies. See Systems of Records, NSF- 50, Principal Investigator/Proposal File and Associated Records, and NSF- 51, Reviewer/Proposals File and Associated Records, 56 Federal Register 54907 (Oct. 23, 1991). Submission of the information is voluntary. Failure to provide full and complete information, however, may reduce the possibility of your receiving an award.

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